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Bauer, A.M. and A.P. Russell. 1993. *Aristelliger praesignis.*

Aristelliger praesignis (Hallowell)

Hemidactylus praesignis Hallowell, 1856 (1857):222. Type-locality, "Jamaica". Syntypes, Academy of Natural Sciences, Philadelphia (ANSP) 7443-44, collected by C.W. Pennock, date of collection unknown (examined by authors).

Aristelliger praesignis: Cope, 1861 (1862):496. First use of combination.

• **Content.** Two subspecies, *nelsoni* and *praesignis*, are currently recognized.

• **Definition.** This species is a moderate-sized member of the genus *Aristelliger.* Males reach 85 mm SVL and females 65 mm SVL (Hecht, 1952; Schwartz and Henderson, 1991). Enlarged postmental scales number 0-3. Lamellae number 9-13 on the 4th digit of the manus and 10-14 on the 4th digit of the pes. Small, asymmetrical adhesive plates occur adjacent to the claw only on digit one of the manus and pes. Dorsal scales in adults are conical, weakly tubercular, and heterogeneous.

The dorsal color pattern in adults develops from a series of dorsal rhomboids and a pair of dark grey scapular ocelli, often with white spots. This results either in a grey dorsum with a stippling of scattered white granules of greatest intensity on the head or in a series of about 7-9 generally poorly-defined diamond-shaped markings from the snout to the sacrum on a grey background. In some cases the rhomboids extend onto the tail, where another 7 or so may be present. Regenerated tails lack the rhomboidal markings but may bear irregular longitudinal lines. The scapular ocelli are most strongly marked in juveniles and are outlined by darker pigment and white. The flanks are often spotted with orange or brick red and these flecks sometimes extend onto the dorsum, the snout, and the base of the tail, where they occur on a yellowish rather than a grey background. Interrupting the junction between the dorsal and ventral color patterns is a line running from the snout along the flanks. This line may be a darker grey than the dorsal color or may be brown or deep orange. The ventral surface ranges from clear white to yellowish, and the chin and throat may be dusky, or striped to varying degrees with grey. The ventral side of the tail is greyish and may bear continuations of the marks seen on the dorsal surface. The ventral surface of the tail in some specimens may instead exhibit 7 or more vivid white ocelli bordered with black. At night the pattern is obscured because the entire dorsal and lateral surfaces darken almost to black (Schwartz and Henderson, 1991). Grant (1940c) reported that some specimens from the Caymans were especially pale in overall coloration.

• **Diagnosis.** *Aristelliger praesignis* may be distinguished from its congeners by the following combination of characters: asymmetrical adhesive plates adjacent to the claw only on digit I of the manus and pes; 0-3 enlarged postmental scales; a tendency for dorsal scales to be conical and heterogeneous; adult SVL 50-85 mm.

• **Descriptions.** A detailed description of the species was furnished by Schwartz and Henderson (1991). Hallowell (1856 [1857]) and Boulenger (1885) provided descriptions based on Jamaican material. Cope (1894 [1895]) described a juvenile of the species. Barbour (1914) gave a description of *A. p. nelsoni.* Garman (1887) and Grant (1940c) described specimens from the Cayman Islands.

• **Illustrations.** A color photograph of this species was furnished by Henkel and Schmidt (1991). Underwood (1951) figured the pupil and Underwood (1954b) the 4th digit. Hecht (1951) illustrated the dentary and Hecht (1952) the ventral surface of the left manus, digit IV of the pes, as well as providing a diagrammatic saggital section of digit IV of the pes. Ruibal and Ernst (1965) presented line drawings of a digit and of a stylized seta and provided black and white photos of digital setae. Ernst and Ruibal (1966) provided histological and transmission electron microscopic details

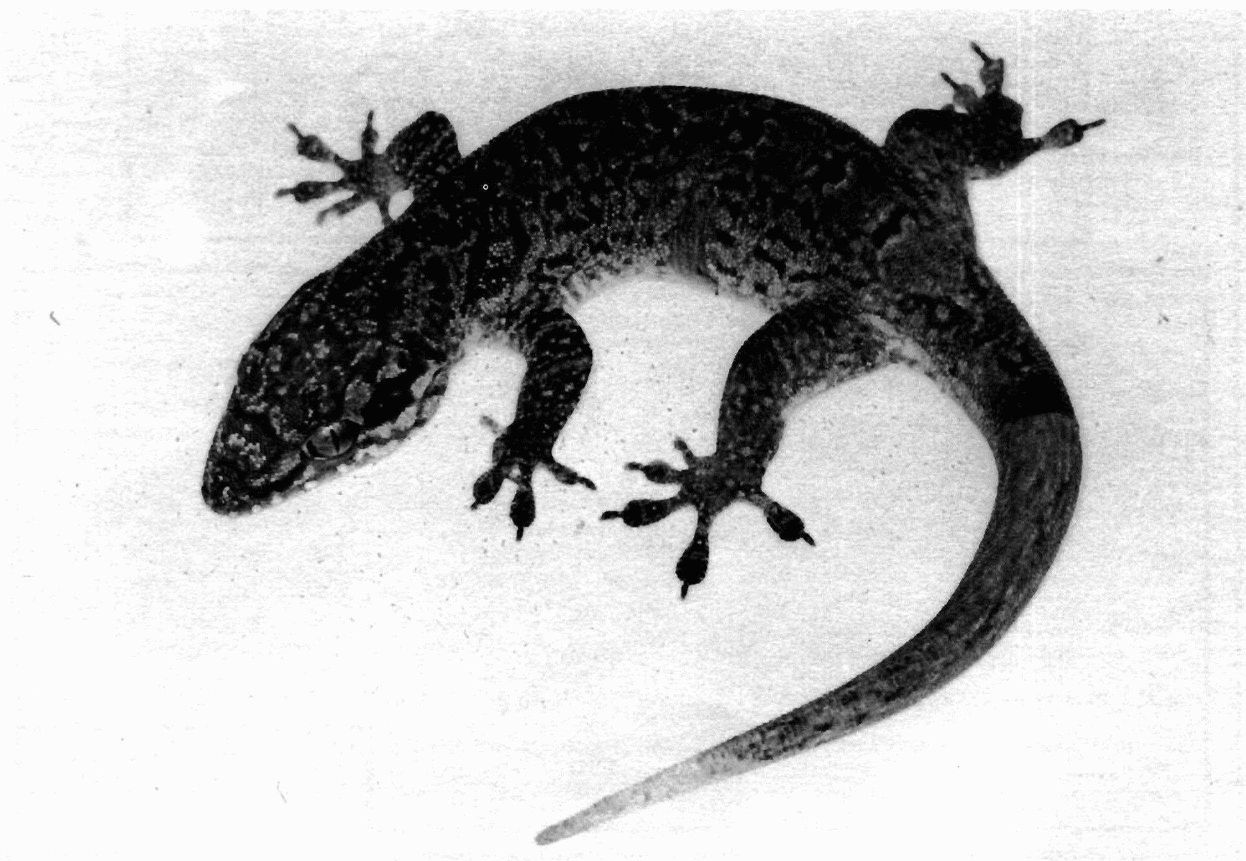


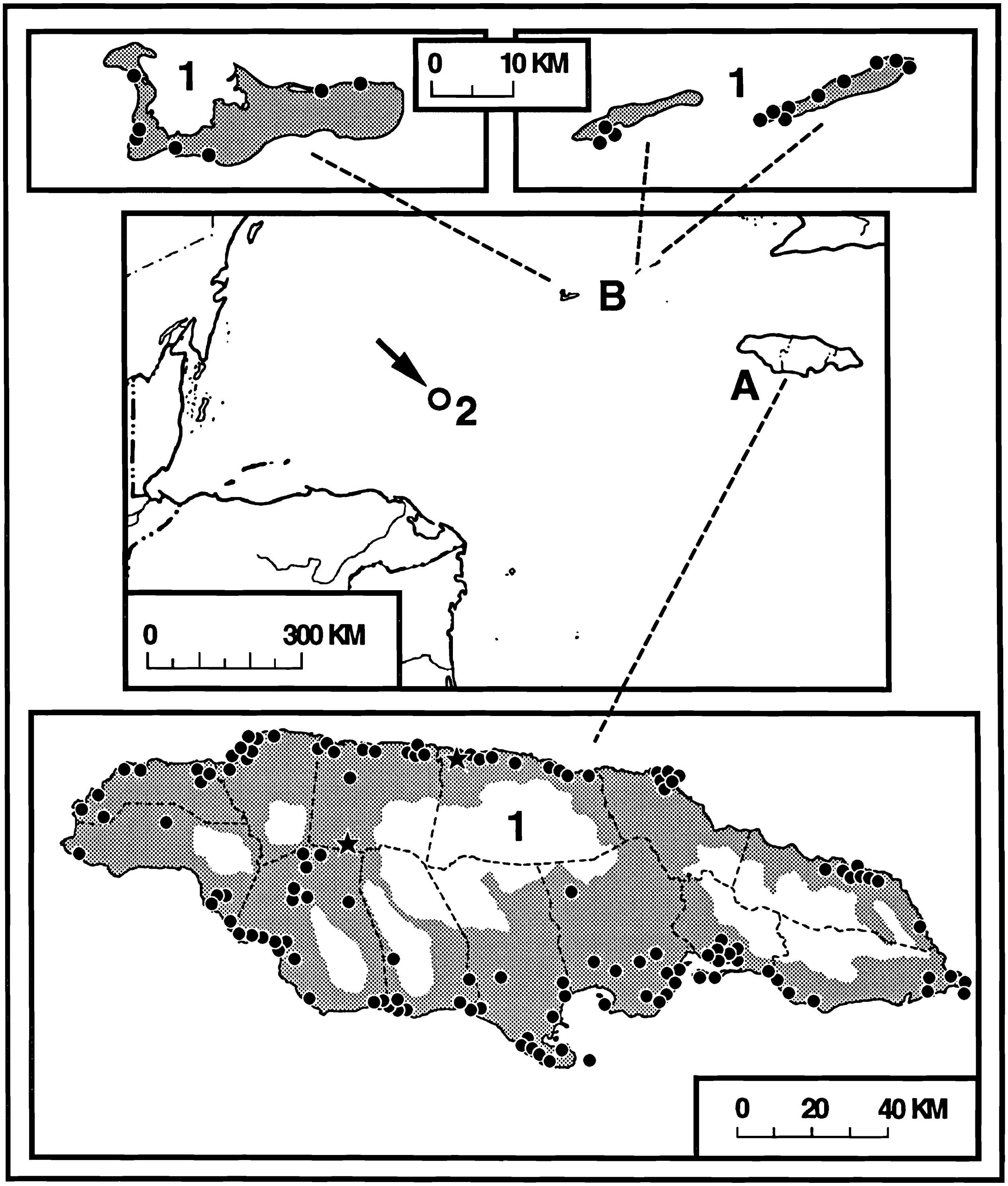
Figure. *Aristelliger praesignis praesignis* from Drax Hall, St. Ann Parish, Jamaica. Photograph courtesy of S. Blair Hedges.

of setal structure and development. Russell (1977) and Kluge (1982) depicted the hemipenial bones in radiographs and line drawings respectively. Bauer and Russell (1989) provided black and white photos of the parafrontal bones. Hamilton (1960) provided line drawings of the inner ear, and Wever (1978) gave a diagrammatic representation of ciliary patterns in the cochlea. Hart (1968) presented diagrammatic sections of the developing heart.

• **Distribution.** *Aristelliger praesignis* is native to Jamaica and some of its satellite islands, the Cayman Islands, and Swan Island. The nominate subspecies occurs in association with natural or artificial retreat sites in mesic habitats on Jamaica (mostly at elevations below 650 m) and the Cayman Islands. *Aristelliger praesignis nelsoni* occurs only on Swan and Little Swan [Islas Santanilla] islands, Honduras, where it inhabits forested areas (Barbour, 1914). Schwartz and Henderson (1991) provided a distribution map.

• **Fossil Record.** Hecht (1951) reported remains possibly attributable to this taxon from Dairy Cave, St. Ann Parish, Jamaica. Pregill et al. (1991 [1992]) identified late Holocene remains of *Aristelliger* probably referable to this taxon from the Marta Tick cave, near Quickstep, Trelawney Parish, Jamaica.

• **Pertinent Literature.** Hecht (1952) suggested that *A. titan*



Map. Distribution of *Aristelliger praesignis praesignis* (1) in (A) Jamaica and (B) the Cayman Islands. The type-locality is too imprecise to plot. Solid circles indicate other known localities. Stars indicate fossil localities. The large open circle marks the type-locality of *A. nelsoni* (= *A. praesignis nelsoni*) on Swan Island (2).

[= *A. lar*] may have been the ancestor of *A. praesignis*. Selection for smaller size potentially being attributable to owl predation was considered by Hecht (1952). Hecht (1952) gave the minimal breeding size and discussed variation in lamellar number in the context of selection. Hecht (1951) outlined the osteology, dentition, and growth of the frontal of *A. praesignis* and carried out mensural comparisons with other species. Underwood (1954a) considered the structure of the atlas, and stated that the pollex and hallux are similar to those of *Sphaerodactylus*. The scleral ossicles were considered by Underwood (1954a) and Kluge (1967). The postfrontal was discussed by Stephenson and Stephenson (1956). Stephenson (1960) discussed aspects of osteology. Increase in tooth number with size was documented by Etheridge (1965). Rieppel (1976) reported the absence of cloacal bones. Russell (1977) indicated the presence of postcloacal elements, which Kluge (1982) later identified as hemipenial bones. Bauer and Russell (1989) considered the structure of the parafrontal bones. Grant (1940c) considered the external morphology of the preanal region. Ear structure and function in the nominate form were discussed by Hamilton (1960, 1964) and Wever (1978). Miller (1966) presented data on the cochlea of *A. p. nelsoni*. Underwood (1954a) described pupil shape in *A. p. praesignis*. Werner (1969) stated that eye size clusters *A. praesignis* with diurnal and diurno-nocturnal forms. Russell (1988) considered the morphology of the limb musculature and the limb girdles. Telford (1975) examined the blood for malarial parasites but found none. Ruibal and Ernst (1965) and Ernst and Ruibal (1966) discussed the morphology of the lamellae and the development of the setae. Gosse (1851) mentioned eggs apparently belonging to this species. Garman (1888) stated that the species is nocturnal and that it produces an odor similar to the musk of garter snakes. The general natural history of this species and its egg-laying sites were considered by Barbour (1910) and Grant (1940c). English (1912) discussed vocalization and reproduction. Vocalization and behaviour of *A. p. nelsoni* were considered by Barbour (1914), Grant (1940a), and Schwartz and Henderson (1991). Grant (1940a) also reported on hiding places and indicated that this species is restricted to the warmer, lower elevations of Jamaica, the Caymans, and Morant and Pedro cays. The Cayman Islands populations are distinctive and are native or pre-Columbian. Grant (1940c) reported partial diurnality. Schwartz and Henderson (1991) summarized the basic habitat preferences and activity times of this species. They also provided dietary information and details of egg-laying sites, clutch size, breeding periodicity, and egg dimensions. Grant (1940c) discussed variation between island populations, insectivory, and the possibility that Cayman Island populations are not as vocal as those from Jamaica. Cope (1894 [1895]) described the color pattern of a juvenile. Skin fragility has been considered by Barbour (1910, 1921), Grant (1940b, 1940c), Bauer et al. (1989, 1992), and Bauer and Russell (1992). Barbour (1910) stated that this species is feared by Jamaicans.

• **Nomenclatural History.** The nomenclature of the species has remained stable following its placement into *Aristelliger* by Cope (1861 [1862]). Cayman Islands populations have been recognized as distinctive (Grant, 1940a), but have never been recognized at the specific or subspecific level.

• **Remarks.** The species is known in the Cayman Islands as "woodslave" (Garman, 1888) and in Jamaica as the "croaking lizard" (Barbour, 1910; Grant, 1940b).

• **Etymology.** The name *praesignis* is a combination from the Latin *prae* (= "before") and *sign* (= "mark"), apparently in reference to the color pattern. *Aristelliger nelsoni* is a patronym honoring George Nelson, a staff member of the Museum of Comparative Zoology and collector of the type series.

1. *Aristelliger praesignis praesignis* (Hallowell)

Hemidactylus praesignis Hallowell, 1856 (1857):222. See species synonymy.

Aristelliger praesignis: Cope, 1861 (1862):496. See species synonymy.

A[ristelliger] p[raesignis] praesignis: Hecht, 1951:24. First use of trinomial.

• **Diagnosis.** *Aristelliger p. praesignis* may be distinguished from *A. p. nelsoni* by its somewhat smaller size, longer snout, and more heterogeneous, conical dorsal scalation. Adults of the nominate subspecies also tend to retain more of the characteristic dorsal pattern.

2. *Aristelliger praesignis nelsoni* Barbour

Aristelliger nelsoni Barbour, 1914:258. Type-locality, "Swan Islands, Caribbean Sea [Honduras]". Holotype, Museum of Comparative Zoology (MCZ) 7891, collected by G. Nelson, March 1912 (examined by authors).

Aristelliger praesignis nelsoni: Hecht, 1951:24. First use of trinomial.

• **Diagnosis.** *Aristelliger p. nelsoni* may be distinguished from *A. p. praesignis* by its larger size, shorter snout, and small, flattened and generally homogeneous dorsal granules. The dorsal pattern is often less pronounced than in the nominate subspecies.

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